IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Phadnis *et al*	Art Unit: 2616
Appl. No.: 09/910,936	Examiner: Nguyen, Brian D
Filed: 07/24/2001	Attorney Docket No.: CSCO-006/2879
For: Forwarding Packets in a Gateway Performing Network Address Translation (NAT)	

Arguments Accompanying Pre-appeal Brief Request for Review

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Sir:

Applicants submit the following arguments accompanying the pre-appeal brief request for review submitted herewith.

Broadly, it is applicants' position that the features of various claims are not met by the references of record, in particular USP Number 6,457,061, issued to Bal *et al* (hereafter "Bal").

For example, claim 1 requires the following to be retrieved in a single search in a gateway:

A. forwarding information - which specifies **a communication path** to a corresponding network, with each communication path being identified by a corresponding **physical port**; and

B. NAT information - which specifies a new address for a original address in a received packet.

It has been pointed out to the Examiner that the TCP/UDP ports, well known in

the relevant arts, are different from the claimed forwarding information. In particular, the TCP/UDP ports identify applications at an end of a connection, while the claimed forwarding information (including communication paths/physical ports) forms the very basis for **packet switching on networks** and to delivery of packets to destination end systems (the TCP/UDP ports usually identify individual applications executing on the end systems). The TCP/UDP ports are **NOT** physical ports (but mere numbers used for identifying applications on end systems).

The Examiner has further entered the below amendment to the specification:

> Thus, the 'port number' (referred also in RFC 2663, referred to above) is generally a session identifier at the TCP/UDP (transport protocol) level. On the other hand, the 'physical port' /interface noted above with respect to the forwarding information identifies the communication path on which the packet is to be forwarded. (Page 2 of the Amendment dated June 10 2008)

It is accordingly asserted that the Examiner also agrees that the UDP/TCP port number and the claimed communication path (at least when specifying a physical port) are different and analogous.

Thus, equating the TCP/UDP ports with the claimed communication path would clearly be **unreasonable** in view of the specification.

In page 3 lines 2-3 of the Outstanding Final Office Action, the Examiner finds the claimed 'forwarding information' (including physical path) in the below disclosure of Bal:

> ... Each entry in the TCP connection list 233 includes at least the internal source IP address of the internal network device that originated the connection, ***the internal source port (SP) number***, the external IP address used by the network address translation module 231 to build the Internet domain connection, and ***the port number assigned by the network address translation module 231 to the connection.*** (Col. 5 lines 26-32 of Bal, ***Emphasis Added***)
>
> ...
>
> ... The network address translation module 231 may

> search the connection list 233 to locate the connection using that particular source connection port number. Alternatively, the network address translation module 231 uses the reverse look-up table to locate the entry in the connection list 233. The network address translation module 231 then ***translates the external port number and external IP address into the internal port number and internal IP address of the internal network node that opened the connection.*** (Col. 5 lines 26-32 of Bal, ***Emphasis Added***)

Clearly, the disclosure above relates to UDP/TCP ports in the context of network address translation (NAT). The disclosure above of Bal does not teach or reasonably suggest the claimed 'forwarding information' (recited as specifying a communication path, which in turn is **identified by a corresponding physical path**).

In a section entitled "Response to Arguments", the Examiner had further stated:

> Response to Arguments
>
> 8. Applicant's arguments filed 6/10/08 have been fully considered but they are not persuasive.
>
> The applicant argues that claim 1 expressly recites that the forwarding information specifies a communication path to forward the packet and that the examiner incorrectly equates the claimed forwarding information to port numbers of Bal. The examiner respectfully disagrees because the connection port number disclosed by Bal is a forward translation generated connection port number (see ***col. 7, lines 20-35***). ***Note that a communication connection is a communication path.***(Page 5, paragraph 8 of the Outstanding Final Office Action, ***Emphasis Added***)

The relevant portions of Bal, including those relied upon by the Examiner in the above remarks, are reproduced below:

> FIG. 3A graphically illustrates how one embodiment of ***a network address translation device*** built using the teachings of the present invention ***generates external IP addresses and port numbers wherein the port numbers are statistically unique.*** Referring to the top of FIG. 3A, the internal IP address and connection port number of the internal network node initiating an Internet connection is depicted. First, the network address translation device generates a legal external IP address for use with the connection. The legal external IP address is selected from a pool of external IP addresses 335 using an IP Address policy 330.
>
> To generate a connection port number, a forward translation (FWT) allocation policy 340 is used. The

> forward translation (FWT) allocation policy 340 generates a connection port number by combining three different elements. First, the forward translation (FWT) allocation policy 340 sets the most significant bit to "1" indicating that this is a forward translation generated connection port number. Next, the forward translation (FWT) allocation policy 340 sets the next most eight significant bits equal to the least significant bits of the internal IP address of the internal network node initiating the connection. Finally, the forward translation (FWT) allocation policy 340 sets the least significant seven bits equal to the least significant seven bits of the connection port number used by the internal network node when initiating the connection. (Col. 7 lines 9-35 of Bal, ***Emphasis Added***)

As can be readily seen from the emphasized portion of above, the teaching above again relates to translation of IP addresses and UDP/TCP ports.

Even assuming ***arguendo*** that the communication of above is a connection path, the address translation simply **cannot be equated** to the claimed forwarding information, which specifies a communication path (**physical port**). In other words, at best, the connection path of Bal can at best be interpreted as **a different type of communication path**.

Thus, the translation of neither the IP addresses nor UDP/TCP ports can be **reasonably** equated to the claimed communication path (which is expressly recited as specifying a **physical port**).

The Panel is accordingly respectfully requested to overturn at least the rejection with respect to independent claim 1.

The Panel is requested to respectfully requested to overturn the rejection of other independent claims based on a finding that the address translation information cannot inherently be equated to the forwarding/routing information specified in the corresponding claims.

The panel is further respectfully request to suggest any changes that, if accepted,

may result in an indication of allowability for the pending claims.

The undersigned representative may be contacted at 707.356.4172 if it is believed that an interview might be useful for any reason.

Respectfully submitted,

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